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ABSTRACT

This paper describes three studies designed to determine whether beginning and completing teacher candidates reflected on their teaching experiences, in what categories they reflected, and how prompts affected their reflections. The research also noted whether teacher candidates' credential programs; modalities (Web site, e-mail, and paper submissions); prompts; coding; and categories reflected upon made any difference in participants' reflections. The studies collected data from beginning and completing teacher candidates at California State University Bakersfield and California State Polytechnic University Pomona in 1999, 2000, and 2001. Results of teacher candidates' reflections indicated that while the breadth of their reflections did not cover the range of category indicators expected, for the most part, teacher candidates at both institutions were engaging in reflective thinking that encompassed confluent education. Their reflection tended to depend on the type of prompt and delivery system involved. These candidates showed improvement in their reflection skills over time. Results suggested that most reflections occurred in the students' affective/social/psychomotor category, and teacher candidates focused more on their students' behaviors and attitudes than on their learning. (Contains 23 references.) (SM)

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REFLECTIVE PRACTICES AND CONFLUENT EDUCATIONAL PERSPECTIVES:

THREE EXPLORATORY STUDIES

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Reflective Practices and Confluent Educational Perspectives: Three Exploratory Studies

Introduction

Reflective teaching has been a desired goal of many teacher education programs. This concept assumes that when we, as instructors and supervisors, ask our teacher candidates to reflect on their teaching activities, their concerns and on their learning to teach, we contribute to their professional growth as teachers, to their education which is a "liberation of the mind" (LaBoskey, 1994, p. 7). LaBoskey suggests further that for teachers to reflect, they "need to be taught how to thoughtfully adapt, apply and evaluate their knowledge of content and pedagogy to a particular learner in a certain context" (LaBoskey, 1994, p.7). This general view of teaching has its roots in Plato and Dewey (1910) and flourishes in much contemporary educational research as well (Greene, 1978; Fenstermacher, 1986; Schon, 1991; Gore & Zeichner, 1991, Adler, 1991; Schulman & Carey, 1984; Izard, 1977; Van Manen, 1991, 1978, 1977).

At the end of her book, LaBoskey quotes Maxine Greene's call for greater passion in education: "...a passion can be a transformation of the world. It can break through fixities; it can open to the power of possibility. It may even render practice more reflective than previously imagined" (Greene, 1986, p.81). LaBoskey endorses this plea, stating, "Teacher education programs need to incorporate goals and structures that accommodate and address the intricate interaction of emotions, values, beliefs and cognitions in student teacher learning" (LaBoskey, 1994, pp.136-137).

As I examined the criteria indicators LaBoskey developed in studying reflective teaching, as well as her methods and philosophy of reflective teaching, I concluded that her framework offered researchers a practical way to examine reflective teaching and how to develop reflective teaching in our candidates. I also realized her criteria indicators and ideas incorporated many essential concepts of confluent education, which has interested me and many of my colleagues for several years. This term "confluent education" encompasses six domains: cognitive, affective, social, psychomotor, inter-personal and intrapersonal. It assumes teachers will consider not only the these domains, but that they will also be aware of their own values, attitudes and professional goals and expectations (interpersonal), as well as be cognizant of how these operate between themselves and their students (intrapersonal). In short, they will consider themselves and their students as "whole persons" in their teaching. Both LaBoskey's ideas and confluent education concepts are branches of the same tree and are rooted in the same sources cited above.

So, inspired by LaBoskey's framework and criteria indicators, I planned several exploratory studies on reflective teaching, using teacher candidates' assignments on my

campus at California State University Bakersfield and at a colleague's campus, California State Polytechnic University Pomona. These exploratory studies occurred from 1999 through 2001. My purpose was to determine whether the teacher candidates can reflect about their teaching and the categories they reflected about, even though neither university program offered specific instruction on how to reflect, what reflection means or why it is a critical skill that good teachers acquire as they gain teaching experience. Additionally, I also wanted to know in more detail than LaBoskey's results demonstrated, 1) if prompts elicited differences in the amount and kinds of reflections produced, 2) if teacher credential programs and modalities (paper, e-mail, website), confluent educational concepts, and 4) coding schemes affected teacher candidates' reflections on their teaching.

Fortunately, LaBoskey's indicators for Alert Thinkers—the group of her students who demonstrated reflective teaching, include almost all confluent educational concepts. So I grouped LaBoskey's criteria indicators into confluent educational domains, and added some criteria indicators to incorporate further confluent concepts. This gave results showing the different domains, or categories, that teacher candidates reflected about. I used a different methodology from LaBoskey's. My exploratory studies were much more limited than LaBoskey's in that I only analyzed one submission from each teacher candidate in each study to determine his or her reflective abilities. Only one study explored the candidates' reflectivity development over a year's time. My results differed slightly from LaBoskey's in three ways: 1) completing candidates demonstrated more reflectivity than beginning candidates, 2) prompts made a difference in the amount of reflection produced, and 3) teacher candidates, both beginning and completing, tend to reflect about their students' affective and social needs more than they do about their students' cognitive needs. Throughout all these studies I use the term "category" to indicate what the teacher candidates reflected about, that is, their major concerns or needs, for their students and for themselves. Similarly, because confluent concepts are so closely identical to Laboskey's ideas about reflection and reflective indicators, I have used the terms "confluent" and "reflective" interchangeably throughout.

Because LaBoskey's seminal work offers an important background to my exploratory studies, it is essential to summarize her framework. This conceptual framework is stated in her 1994 book, Development of Reflective Practice: A Study of Pre-service Teachers. This framework includes the initial "Beliefs-Knowledge, Values-Attitudes, Skills and Emotions" of teacher candidates, and the "internal and external impetus for reflective teacher education." It also includes the act of reflection itself: the practical-technical, social-political and moral-ethical content; the rational and intuitive process of problem definition, means-ends analysis and generalization; the attitudes of open-mindedness, responsibility and wholeheartedness, and conditions that provide structural aids to reflection. This framework leads to "new comprehensions, including reflective skills, beliefs-knowledge, values-attitudes and emotional states" that provide teacher candidates with skills and attitudes to "solve (current and future) educational problems" (LaBoskey, p. 10). Reflection, for LaBoskey, is "both an end and a means. We must find ways to engage student teachers in reflective thinking in order to learn new ideas—new

knowledge, beliefs, and values—from the program, and we must help candidates to develop the attitudes, skills and emotional traits or emotional controls that will help them to become and remain reflective teachers" (LaBoskey, p 16-17).

Her study was designed "to explore the nature and stability of reflectivity in pre-service teachers by contrasting the performance of individuals who differed in their initial orientation toward and ability to reflect" (LaBoskey, 1994, p. 21). She used a questionnaire to identify initial reflectivity qualities which distinguished those students who demonstrated reflection and those who did not. With the results of this pre-assessment questionnaire given to 63 beginning student teachers, she grouped pre-service teachers into "commonsense thinkers," the more unreflective group, and "alert thinkers," those who seemed "to possess many of the attitudes, abilities and ideas that will facilitate rapid growth" (LaBoskey, 1994, p. 27). From this questionnaire she identified the following indicators of "commonsense thinkers" and "alert thinkers". The following Table 1 lists these indicators she found in each group: (LaBoskey, 1994, p.29).

TABLE 1 LaBoskey's Initial Levels of Reflectivity

Unreflective Indicators (Commonsense Thinker)	**Reflective Indicators (Alert Thinker)**
Self-orientation (attention on self and/or subject matter	Student orientation (attention on the needs of the children, Attitude)
Short-term view	Long-term view (Attitude/Process)
Reliance on personal experience in learning to teach (learn by doing, trial and error)	Differentiation of teacher and learner roles (Attitude/Process)
Metaphor of teacher as transmitter	Metaphor of teacher as facilitator (Attitude/Process), resource provider
Lack of awareness of need to learn; feeling of already knowing much from having been in a classroom as a student	Openness to learning; growth-oriented; planning (Attitude/Process)
Overly certain conclusions	Acknowledgement of need for conclusions to be tentative; need for feedback, triangulation
Broad generalizations	Means-end thinking
Existing structures taken as givens	Strategic thinking
	Imaginative thinking
	Reasoning grounded in knowledge of self, children and subject matter

After graphing the total scores, she selected six students from each end of the curve to participate in the study. Each of these 12 students participated during their teacher-credentialing program, which consisted of a four-quarter program during their fifth year of college. All of the students in the program, including the 12 selected as case study participants, completed a series of assignments over a year's period designed to encourage reflection. Using a modified version clarifying the above indicators, she identified the strength of each six students' case studies (and case investigations, supervisors' summaries of the students' observations and other assignments as well) on a scale of + or – one through five. LaBoskey's six case studies were coded holistically, as she explains in her Appendix (LaBoskey, 1994, p. 143).

One of the results LaBoskey obtained was that alert novices became more reflective at the end of the program and commonsense thinkers demonstrated little change. LaBoskey concludes that the commonsense thinkers' inability to develop reflection derived from their lack of cognitive skills or from their attitudinal or emotional orientations. Most alert novices, on the other hand, began with a "passionate creed" about teaching and thrived on "why" questions throughout their fifth year program.

Method

Building on LaBoskey's framework and reflective indicators as well as Greene's ideas about reflection, I began the first study in 1999 by exploring the reflection teacher candidates exhibited at the end of their fifth year, using data collected from my classes as well as several other colleagues, one at California State University Bakersfield and one at California State Polytechnic University Pomona. At the beginning, in 1999, I was interested in whether our completing teacher candidates could reflect even when they were given little or no instruction to do so in their coursework or student teaching. I was also concerned whether teacher candidates' credential programs, modalities (website and e-mail and paper submissions), prompts, coding, and the categories they reflected on made any difference in the teacher candidates' reflections.

For the confluent aspects of the study, all of LaBoskey's expanded reflective (alert) criteria indicators (LaBoskey, 1994, p.35) incorporated confluent educational perspectives. I merely broke down her indicators into the six confluent domains, or categories: cognitive, affective, social, psychomotor, inter and intrapersonal. I also added some indicators specifying some confluent concepts not included in her reflective indicators. For example, "student orientation (attention on the needs of the children)," was expanded to include six areas: emotional, psychomotor, cognitive, social (peers, family, and community), ethical/moral (democratic principles), and political (k1-k6). Not only did I want to identify a "student orientation," but also I wanted to know the categories teacher candidates used in paying "attention to the needs of students". I expanded the indicator "awareness of teaching as a moral activity" to include "awareness of being a role model, references to values, attitudes commitment and enthusiasm necessary to be an effective teacher, to the spirit of teaching, and to the responsibilities for doing everything appropriately possible for students to succeed."

I added the indicator "awareness of the classroom and teaching as part of a social and political context" In the cognitive category I placed student orientation-cognitive (code k3), acknowledgement for conclusions to be tentative and need for feedback (code p), means-ends thinking (code q1) and imaginative thinking (code r); in the interpersonal and intrapersonal categories I put reasoning grounded in knowledge of self, children and subject matter (code q2). In the affective category, I combined the awareness of teaching as a moral activity (code s), awareness of the classroom and teaching as part of a social and political context (code t), student orientation--physical, emotional, social, ethical-

moral democratic principles, political (codes k1, k2, k4, k5, k6) because they referred to teacher candidates' attitudes about students. I placed reflecting about teaching in a long-term view (code l), differentiating the teacher and learner roles (code m), metaphor of teacher as facilitator (code n), and openness to learning (code o) in the affective category because LaBoskey defines all of these criteria as attitudes and processes. The student orientation category (code k) I also placed in the affective category (all except k3 which is student orientation—cognitive) because, according to LaBoskey, candidates who are student oriented are more reflective than those candidates whose orientation is to themselves or to their subject matter.

The following Table 2 lists the indicators LaBoskey used to measure categories of reflectivity, and to some extent, the levels, or "depth of reflection" the students exhibited. The indicators I modified or added in this exploratory study are listed in italics.

TABLE 2 LaBoskey's Indicators for Reflectivity Criteria/Categories
And My Modified Indicators of Reflectivity Criteria/Categories in Italics

COMMONSENSE THINKER (Unreflective)	ALERT NOVICE THINKER (Reflective)
a. Self-orientation (attention on self and/or subject matter	k. Student orientation (attention on the needs of students) *1. emotional* *2. physical, psychomotor* *3. cognitive* *4. social: peer, family, community* *5. ethical/moral values (democratic principles)* *6. political*
b. Short-term view	l. Long-term view
c. Reliance on personal experience in learning to teach (learn by doing, trial and error)	m. Differentiation of teacher and learner roles
d. Metaphor of teacher as transmitter	n. Metaphor of teacher as facilitator
e. Lack of awareness of need to learn; feeling of already knowing much from having been in classrooms as a student.	o. Openness to learning; growth-oriented
f. Overly certain conclusions	p. Acknowledgement of need for conclusions to be tentative; need for feedback and triangulation
g. Broad generalizations	q1. Means-ends thinking; strategic thinking, cites reason q2. Reasoning grounded in knowledge of self, children and subject matter
h. Existing structures taken as givens	r. Imaginative thinking; *creative thinking, resourcefulness*
i. *Lack of commitment; doesn't see self as role model; do as I say, not as I do; teacher is value free; uses "whatever works", lack of concern for whether students learn—"if they don't learn, it's their problem."*	s. Awareness of teaching as a moral activity; *aware of being a role model; references to values, attitudes and enthusiasm necessary to be an effective teacher, to the spirit of teaching, the responsibilities for doing everything appropriately possible for students to succeed*
j. Views classroom in isolation, unconnected to larger socio/political context; sees teaching as not influenced by larger social and political values and events.	*t. Awareness of the classroom and teaching as part of a social and political context.*

In short, the modified criteria indicators added greater specificity to LaBoskey's. For, although LaBoskey never mentions the terms "confluent education", the confluent

indicators I added are very similar to LaBoskey's and Greene's ideas about reflective teaching, as well as the ideas of Van Manen:

> Thoughtful reflection discovers where unreflective action was "thoughtless," without tact. Thus the experience of reflecting on past pedagogical experience enables me to enrich, to make more thoughtful, my future pedagogical experience. This is not just an intellectual exercise, but a matter of pedagogical fitness of the whole person. What we might call "pedagogical fitness" is a cognitive and emotional and moral and sympathetic and physical preparedness (Van Manen, 1991, pp. 205-206).

The first group of data collected was from a colleague at CSU Pomona who had 40 student teachers in the final phase of student teaching in multiple subject (elementary) and special education classrooms; all had cooperating (master) teachers. She collected a final paper in which they all reflected on the sixth standard of the *California Standards for the Teaching Profession*. She asked her candidates to respond to the prompt: "Reflection on Professional Development: Describe your development as a professional educator since you entered the credential program and your intended future professional development."

The second group of data I collected from 40 secondary student teacher candidates enrolled in my educational psychology class during their first phase of student teaching. Some were student teaching on emergency permits; some were student teacher with a cooperating (master) teacher. I asked my candidates to read a case study on my website and respond on my website to the following prompt: "Reflection on a Case Study: In your analysis of the classroom situation presented in this case study, what is the teacher's perspective? What is your perspective? Give evidence to support each perspective."

My other colleague at Bakersfield had one section of 24 students, all in the secondary program, taking a course "Computers in the Classroom" during their final ten weeks of student teaching. He asked his students to e-mail him their responses to: "Reflection on a Computer Exploration Activity: Visit Internet Cool links (on the instructor's web-site) and report your insights. Explain how you can use these website ideas and information in your classroom lessons." Each of his 24 students submitted one assignment via e-mail.

I collected only one assignment from each group of students at the quarter's end; I did not consider any growth or development in their reflective ability throughout their coursework. All instructors prefaced the assignments given throughout the courses—a "method of reflection (that is) a three step process including problem definition, means-ends analysis, and generalization that is carried out with the attitudes of open-mindedness, responsibility, and whole-heartedness" (LaBoskey, 1994, p. 4). However, as I mentioned above, no instruction was given in the meaning of reflection, the purpose of it, or what to reflect about, other than the information given in the prompt. Each of the three data samples responded to a different prompt and submitted their papers in a

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different mode: a paper submitted in class from the Pomona sample, on my website from my sample, and via e-mail in the third sample, also from CSU Bakersfield.

The first two data samples, from my teacher candidates and from the Pomona data sample, each had 40 teacher candidates: two sections for each of their two courses. The third sample (via e-mail) had 24 submissions for a total of 104 submissions. From each of the three data samples, I selected at random half of their total submissions for a total of 52 submissions. Then I randomly selected half of each of the three samples (26) to code, and gave the other half (26) to a student assistant I trained to code the data samples according to the modified indicators listed below in Table 2. After my assistant and I had completed our independent coding of our respective samples, we met to explore and resolve any discrepancies in our respective codes, until we reached 100% agreement on each of our 26 coded samples. Then each of us coded 26 of the remaining 52 submissions. Each of us coded all sentences and parts of sentences containing any of the indicators listed; each sentence or part of a sentence received two or three codes if the content justified the codes. For example, if a teacher candidate's submission contained a sentence referring to *student orientation* and *means-ends thinking*, I coded that sentence with those two codes.

Results and Discussion

The data indicate that in the professional development and case study assignments, a slightly greater proportion of teacher candidates' reflections (.56 and .86 respectively) fell into the reflective category; while only .49 of the electronic group yielded reflective responses. I attribute this to the specificity of the written prompts and the delivery systems used. Both the professional and the case study prompts required more reflection than the electronic prompt, which asked a very general question "Find websites which contain materials you can use in your lesson plans and explain how they can be used". Furthermore, an e-mail response typically encourages brevity and suggests lengthy responses are unnecessary. Also, student e-mail responses to faculty from faculty websites were not typical communication styles on the Bakersfield campus in 1999. Table 3 below shows the results:

TABLE 3

Data from 1999 – Completing Teacher Candidates, CSU Bakersfield and CSU Pomona

	Proportion of	Reflective	to	Total Responses		
	Total Coded Items	Non-Reflective	Total Confluent Reflective k, l, m, n, o, p, q, r, s, t	Cognitive[1] K3, q1, r, p	Affective, Social Pschomotor[1] K1-k2, k4-6, l, m, n, o s, t	Inter&Intra Personal [1] q2
Reflection Type						
Professional	1164	0.44	0.56	0.20	0.35	0.01
Case Study	499	0.14	0.86	0.32	0.52	0.02
Electronic	187	0.51	0.49	0.18	0.31	–

[1] The Total Confluent Reflective is equal to the sum of Cognitive; Affective, Social, Psychomotor; Inter- & Intra- Personal.

These results suggest our teacher candidates do tend to engage in reflection, depending on the type of prompt and to some extent, on the delivery system. For example, prompts asking for reasons or evidence generated more reflection than those asking for descriptions only. The case study, which required the development of an argument, generated a higher proportion of reflective responses than did the professional development reflection and the electronic website responses. One other explanation for the general lack of reflection responses in all three groups could be that teaching methods classes, at least in the minds of teacher candidates, remain so disconnected—"so theoretical" to quote many student teachers--from their classroom student teaching experience that they can only reflect on "what works" when asked to supply evidence. In any case, our data support LaBoskey's similar finding that the prompts affect the reflections her teacher candidates expressed.

However, most of the teacher candidates, even those with a high number of "reflective" indicators, did not reflect deeply. For example, in the proportion to total, the largest number of reflections occurred under the category "affective/social", not in any of the other confluent categories such as "cognitive", "inter/intrapersonal". When only the student category was isolated in the second part of the table, the "cognitive" portion referred primarily to reflections about the students not submitting any homework or doing poorly on tests, not to any depth of reflection about their students' academic achievements or abilities, or why this was or was not occurring. While the teacher candidates cited main points to answer their questions, listed insights, described brief specifics, and gave their views on the case study, professional development or websites, very few provided examples to support their insights or conclusions. In short, they provided rather superficial reflections that did not reflect means-end or strategic thinking. These results corroborate those LaBoskey found from the pre-assessment scores she found in her groups (LaBoskey, 1994, p. 31).

Data showing that most reflections in the three different modalities and the two teacher credential programs occurred in the students' affective/social/psychomotor category is not surprising. The candidates' comments occurred at the end of their student teaching experience, indicating they still lacked sufficient classroom management experience to concentrate on their students' learning. This may mirror an outlook in which teacher candidates tend to view their students only within the context of the school setting and not within the larger context of students' physical, familial, communal, personal, political and personal experiences and needs. When teacher candidates did respond about socio/political contexts, they usually spoke in terms of balancing their professional and personal lives. Comments included, "I attempt to put on paper a schedule to keep activities straight in my mind by balancing responsibilities; I am trying to include as many recreational activities as I can so that I do not overload myself with school related activities; I don't see teaching as isolated because I relate to many people throughout the day who care about students just as I do." In these cases, their comments received two codes: "inter-intra personal" and "affective/social/psychomotor".

The few comments regarding the candidates' inter-and intra-personal knowledge related closely to the existing social, cultural, ethnic, political, school and community contexts and how these factors influence their teaching or their students. The low proportions on inter-and intra-personal knowledge suggests the teacher credential programs both at CSU Pomona and CSU Bakersfield need to emphasize and work with the beliefs and values of our teacher candidates and how they can use this knowledge to teach more effectively.

It is not clear from the data that the credential programs, the modalities (e-mail, website, paper), the small size of the responses in the electronic group, or the coding scheme contributed to the differences in the total reflective responses in the three groups. The coding method I used did allow us to determine what topics teacher candidates reflect about, but this is just a beginning. The coding scheme needs to be refined to see whether it is possible to identify the differences between "affective" and "social" concepts; the "interpersonal and intrapersonal" concepts need to be specified more clearly to identify them in the teacher candidates' responses. The individual indicators for "inter & intrapersonal", "social", "affective", "openness to learning", "metaphor of teacher as facilitator", "awareness of teaching as a moral activity", "awareness of the classroom and teaching as part of a social and political context", teacher candidates' orientation to their students' "ethical/moral values/democratic principles," "physical/psychomotor" all had very low proportions, which is why they were combined into basically two categories: "affective" and "inter & intrapersonal". These are all important categories according to many studies (Laboskey, 1994; DeMuelle, L & D'Emidio-Caston, 1996; Greene, 1986; Izard, 1977; Dewey, 1932) and according to expert teachers' best practices. It is an open question, however, the extent to which teacher candidates just completing a credential program can be expected to reflect about these topics. It is clear that these concerns need to be emphasized in greater depth in teaching credential programs and during the early years of teachers' professional lives, but how to do this is certainly not clear nor easy.

The closest most teachers came to identifying characteristics of "passion and spirit" were comments about the roles and responsibilities of teachers. Typical comments included, "A sense of grandeur about education is needed," "Teaching is a wonderful, joyous profession, but you have to have a sense of humor to survive," "Teachers must discover themselves, their attitudes, commitments, values, and systems of ideas." One credential candidate after teaching on an emergency credential for a year, however, did state "Teaching is a sacred act." Statements such as these also received two codes because they reveal teacher candidates' personal views about teaching as well as the teacher's role.

However, this exploratory study does confirm that students at both CSU Bakersfield and CSU Pomona do reflect on their student teaching, and on confluent educational perspectives, even though these confluent perspectives and reflection itself are not essential components of either teacher education programs.

The Second Exploratory Study: 2000

During the year 2000 I continued the study by collecting data from beginning teacher candidates at CSU Bakersfield and from the Beginning Interns at CSU Pomona. In this study I focused on beginning teacher candidates' reflections when the prompts remained the same. I selected randomly 20 submissions from the 100 applicants at CSUB, and 20 random submissions from the 100 applicants at CSU Pomona's CALTEACH Intern Program. In this 2000 data sample, all beginning teacher candidates at both universities received little reflection instruction throughout their credential programs. The only difference in the two groups were the interns taught full-time in their own classrooms while taking credential courses, while CSU Bakersfield's applicants were a mixture of traditional fifth-year applicants and emergency permit teachers also teaching full-time while taking credential courses. CSU Pomona's Beginning Interns submitted responses as part of their application process, just as CSU Bakersfield's applicants did. At Bakersfield and at Pomona, all teacher applicants were required to respond to the same prompt:

> "Think about your high school experience in terms of the class environment, the atmosphere and the learning and teaching you achieved from the teachers you had. Then describe the kind of teacher you want to be when you have earned your credential and are teaching your own classes. What kind of environment and atmosphere do you want to create in your classroom? What do you want your students to learn? Give reasons for your choices."

Using the same methodology for analyzing the 2000 data as I described previously in the 1999 study—and using the same prompt and submission modality--I obtained the following results from the two data samples shown in Table 4 below:

TABLE 4

Data from 2000 – Beginning Teacher Candidates

CALTEACH Pomona Interns and CSU Bakersfield Secondary Applicants

Proportion of Reflective to Total Responses

Reflection by Location	Total Coded Items	Total Non-Reflective	Total Reflective k, l, m ,n, o, p, q ,r ,s, t	Reflective Cognitive k3, q1, r, p	Reflective Affective/Soc Psychomotor k1-k2, k4-6, l, n,o,s,t	Reflective Inter&Intra personal q2
Begin Interns	800	0.52	0.48	0.16	0.31	0.01
CSUB Applicants	604	0.5	0.5	0.17	0.32	0.01

TABLE 5

Breakdown of Total Reflective Responses in Table 4

Reflection by Location	Reflective	Students (k 1-6)	Long-term (l)	Teacher/ Learner (m)	Facilitator (n)	Open (o)	Conclusions Tentative (p)	Inter&Intra Personal& Reasoning (q1,q2)	Imagination (r)	Moral (s)	Social/ Political (t)
Begin Interns Pom	0.48	0.27	0.01	0.02	0.01	0.06	0.01	0.07	0.005	0.01	0.02
CSUB Applicants	0.5	0.23	0.01	0.06	0.01	0.05	0.01	0.05	0.003	0.05	0.03

Even though the data shown in Table 4 is taken from two different teacher candidates' groups, CALTEACH Pomona Interns and CSU Bakersfield Applicants, the results in both locations and in almost every category show that the beginning teacher candidates' reflections are slightly lower than the completing teacher candidates at these same institutions in 1999. For example, the total reflective/confluent reflections of beginning applicants at Pomona and Bakersfield in 2000 are .48 and .50 of all responses, respectively; the total reflective/confluent reflections of completing candidates at Pomona and Bakersfield in 1999 are .56 and .86 respectively (see Table 3, above). In both 1999 and 2000 the inter & intrapersonal category had the lowest reflections of all; the affective category elicited the most reflective responses, almost twice as many as in the cognitive category. In contrast to the 1999 data, the total reflective responses for both groups in 2000 are almost identical, .48 for Pomona Interns and .50 for CSU Bakersfield applicants. Using the same prompt and the same mode of submitting the reflective responses for both Pomona's CALTEACH Interns and the CSU Bakersfield applicants undoubtedly produced this result.

The "students" category indicates the teacher candidates' orientation, which is to their students rather than to themselves or their subject matter. In Table 5 "students" includes all sub-categories of student orientation—to their emotional, psychomotor, social, cognitive, moral and political needs. All of the "students" subcategories are included in the "Affective" category in Table 4, except for q2, (reasoning grounded in knowledge of self, children and subject matter) which I placed in a separate category to indicate how small it is.

I broke down the total reflective responses in Table 5 to show two items: 1) the reflective response categories in both groups are very small except for "students" and 2) this data suggests that teacher candidates are so focused on their students' behaviors and attitudes that all other categories fall into the background. A typical response from a CSU Bakersfield applicant illustrates this: "I want to establish a positive classroom environment for my students and to create enthusiasm and curiosity about ideas, about learning. But I know from substituting that this is rarely possible because of students' misbehaviors and lack of attention". I coded this sentence k1, k3 and k4 (student orientation-cognitive, emotional and social) and m (differentiation of teacher and learner roles). In fairness to this applicant, further statements indicated willingness to learn how to accomplish these goals. However, this data, and comments such as these, indicate not

only a positive orientation to the students; these results also indicate that teacher candidates' focus more on their students' behaviors and attitudes than on their learning. This focus on managing students does not change much during the one semester or two quarters of student teaching. Certainly in one sense this is very positive. In another sense, this data suggests both beginning and completing teacher candidates' reflections about their students' cognitive, emotional, social moral and ethical needs are still to be fully developed.

The Third Exploratory Study: 2001

In any case I continued studying teacher reflection in 2001, using the secondary applicants' writing samples (a requirement for applying to the Secondary Credential Program at CSU Bakersfield) as data to analyze. I chose to compare prompts to a randomly selected group of the total applicants to CSU Bakersfield in winter quarter 2001. When I asked my colleague in the CALTEACH Intern Program in Pomona to contribute some submissions, she agreed. She wanted to use the same group of beginners and completers to the Intern program. This gave the study the variety I hoped for.

I analyzed all four data sets using the same procedures described previously in the first study. She identified 15 interns who began the program and completed it in winter 2001. At CSU Bakersfield in winter quarter I had only 20 applicants who had completed their writing samples in the time frame I needed to code their submissions. I randomly divided the CSU Bakersfield writing samples with my student assistant by the writing prompt the applicants had been given, so that both my student assistant and I each had five of each writing prompt type. Then I randomly divided the beginning interns and the completed interns, giving half of each group to my student assistant, who by this time was very familiar with the coding scheme. In this study all the submissions were coded: 15 Pomona Beginning Interns and 20 CSU Bakersfield applicants all in winter quarter 2001.

At CSU Bakersfield the prompts were given randomly as they received their application packets. For the first group, I used the same prompt as the one I used in the 2000 study:

> "Think about your high school experience in terms of the class environment, the atmosphere and the learning and teaching you achieved from the teachers you had. Then describe the kind of teacher you want to be when you have earned your credential and are teaching your own classes. What kind of environment and atmosphere do you want to create in your classroom? What do you want your students to learn? Give reasons for your choices."

For the second group, I omitted in the prompt any reference to thinking about their past classroom experiences and teachers, and did not ask them to give reasons for their choices. This second group of applicants received the following prompt:

> "Describe the kind of teacher you plan to be when you have earned your credential and are teaching your own classes. Tell about the classroom environment you will create and what you want your students to learn."

The CALTEACH Beginning Interns were all given the same prompt on professional development from the *California Standards for the Teaching Profession:*

> "Reflection on Professional Development: Describe the development as a professional educator that you anticipate experiencing in the credential program. Base your description on your classroom experiences as a student, your subject matter knowledge now, and the kind of teacher you want to become. Give evidence for your descriptions".

The CALTEACH Completing Interns were given the following prompt:

> "Reflection on Professional Development: Describe your development as a professional educator since you entered the credential program and your intended future professional development. Give reasons for your choices."

Results from the CALTEACH Pomona Interns are listed below in Tables 6 and 7:

TABLE 6

Data from 2001 – Beginning and Completing CALTEACH Pomona Interns

Proportions of Beginning and Completing Interns' Reflective & Non-Reflective Responses

	Total Coded Items	Non-Reflective	Total Confluent Reflective k, l, m ,n, o, p, q ,r ,s, t	Reflective Cognitive q1,r,p, l, o, m	Reflective Affective/Soc Psychomotor k, n, s, t	Reflective Inter&Intra personal q2
CALTEACH Interns						
Beginning	684	0.52	0.48	0.17	0.3	0.01
Completing	951	0.47	0.53	0.2	0.32	0.01

TABLE 7
Data from 2001 – Beginning and Completing CALTEACH Pomona Interns
Total Confluent Reflective Responses

Matched Pairs			
Begining 2000		Completing 2001	
A	0.22	A	0.36
B	0.28	B	0.4
C	0.36	C	0.58
D	0.38	D	0.47
E	0.45	E	0.53
F	0.46	F	0.48
G	0.46	G	0.49
H	0.47	H	0.52
I	0.48	I	0.46
J	0.5	J	0.45
K	0.5	K	0.61
L	0.53	L	0.58
M	0.55	M	0.63
N	0.59	N	0.56
O	0.83	O	0.57

The results in Table 6 show the completing interns improved their in their reflective teaching by five percent during their intern teaching experience. As in previous studies, the same trends appear with both the beginning and the completing interns: the affective category shows the largest percentage of reflections and the inter and intrapersonal category the smallest. The completing interns demonstrated the most growth—three percent--in the cognitive category. Table 7 shows the improvement in teacher reflection most dramatically. Of the fifteen matched pairs of beginning and completing CALTEACH Interns, all except four (I, J, N and O) improved their teaching reflectiveness considerably. This is very encouraging.

Because I was examining whether two different prompts affected the CSU Bakersfield's teacher applicants' reflectiveness, matching the groups was not possible. I did not examine the applicants' grade point averages, age, gender, or prior classroom experience if any; I merely distributed the two prompts randomly to the applicants. Their reflective responses are shown in Table 8, below:

TABLE 8
Data from 2001 – Beginning CSUB Applicants

Proportions of Reflective Responses to Two Different Prompts

	Total Coded Items	Non-Reflective	Total Reflective k, l, m ,n, o, p, q ,r ,s, t	Reflective Cognitive k3, q1, r, p	Reflective Affective/Soc Psychomotor k1-2, k4-6, l, m n, o, s, t	Reflective Inter&Intr personal q2
CSUB Applicants						
Prompt-No Reason	357	0.52	0.48	0.16	0.32	0
Prompt-Reasons	783	0.3	0.7	0.2	0.5	0

These results show that the prompt definitely affects the amount of reflections it generates. When prompted to give reasons for their teaching beliefs, teacher candidates demonstrated twenty-two percent more reflections than those who responded to prompts not asking for reasons. As in the previous studies, the affective category yielded the most reflections; the inter and intrapersonal category received none at all for either prompt. Although the prompt requiring reasons produced more reflections in the affective than the cognitive category, it is interesting that this prompt produced slightly more reflections in the cognitive category than the prompt not requiring reasons. This suggests that greater emphasis on problem-solving, on thinking about classroom situations and on critical thinking in general, can benefit all teacher candidates throughout their entire credential program.

Summary

Several tentative explanations can be offered for these results. Because the teacher credential programs in terms of courses required and in terms of teacher reflection, do not differ much in the two credential programs used here, it is reasonable that the total teacher reflection results are similar at each institution. First of all, even though I did not track individual students as LaBoskey did in her study, the teaching methods' classes themselves offered some exposure to reflecting about teaching, even though reflecting was not directly emphasized at either institution. Secondly, it is possible that the 1999 and 2000 groups at both institutions differed in their reflection abilities. Thirdly, the beginners' prompt used at both institutions might not have offered adequate opportunity for beginners to generate reflection at a deep or cognitive level. Fourth, the data samples could be so small that they are not representative of the groups. In addition, several submissions from each candidate, as LaBoskey used in her study, would have produced a more representative picture of each candidate's reflective ability; in my studies I

examined only one submission from each candidate. Finally, the coding scheme could have had some effect on how teacher reflection is measured, because the coding scheme I used in all the studies differed from Laboskey's. Perhaps sorting the submissions holistically at the beginning of the study to identify those who appear to be reflective from those who do not—as LaBoskey did--and then coding a random group of reflective submissions and a random group of non-reflective submissions would have yielded more meaningful results.

Nevertheless, in view of the fact that these were exploratory studies to determine whether beginning and completing teacher candidates reflect on their teaching experiences, in what categories they reflect, and how prompts affect their reflections, this data is encouraging and worthy of further examination and study. While the breadth of the teacher candidates' reflections did not cover the range of category indicators expected, it is, nevertheless, heartening that for the most part, the teacher candidates at both institutions are engaging in reflective thinking that encompasses confluent education. These same candidates show improvement in their reflection skills. Furthermore, the data reveal some categories—some teacher concerns—that teacher candidates reflect about. The results also suggest that teacher education programs need to focus on the contextual influences which affect their teacher candidates' lives, experiences and learning, as well as provide guidelines on how to reflect and give assignments which provide experience for them to do so.

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